



UNIVERSITY  
of  
GREENWICH



MSA UNIVERSITY

FACULTY OF COMPUTER SCIENCE

Cloud Computing Course Project

**VirtCloud**



A Cloud-Based Virtual Machine Management Platform

***User Manual***

**Supervised by:**

Dr. Mohamed Hassan Mahmoud Elgazzar

**Team Members:**

- Mostafa Hesham - 220367
- Mahmoud Ibrahim Elmolla - 224417
- Youssef Ahmed Hany - 220427
- Mahmoud Ahmed - 237957
- Youssef Abdelhamid - 223339
- Karim Emad Helmy Shaker - 220995

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# 1 Introduction

VirtCloud is a user-friendly cloud virtualization platform designed for creating, managing, and operating virtual machines (VMs) through an intuitive web interface. Users can create virtual disks, allocate computing resources, launch operating systems, and track usage, all backed by a credit-based billing system.

## 2 Getting Started

### 2.1 Sign Up

To begin using VirtCloud, users must first create an account.

- Navigate to the **Sign Up** page.
- Enter a unique **username**, a valid **email address**, and a **password** (minimum 8 characters).
- Upon submission, your account will be created and assigned a default **Free Plan** with 15 monthly credits.

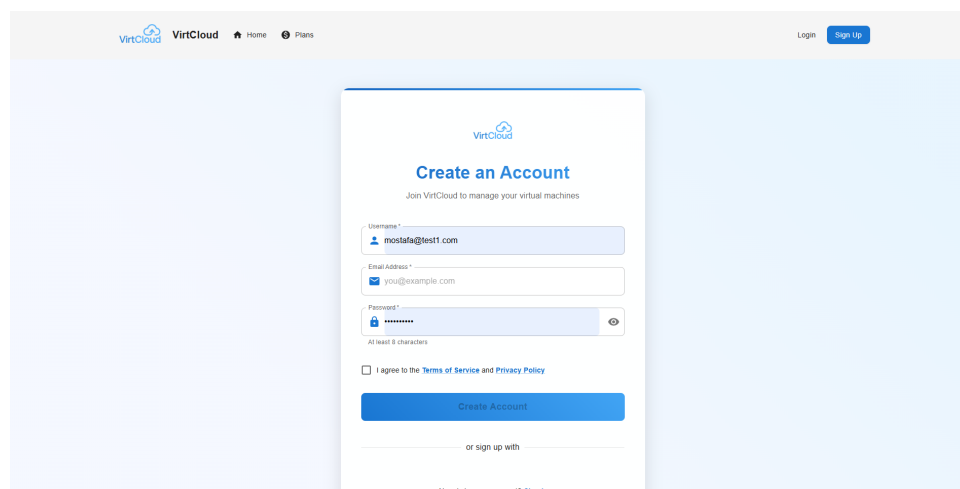


Figure 1: Sign Up Page

### 2.2 Log In

If you already have an account:

- Navigate to the **Log In** page.
- Enter your **email** and **password**.
- After successful login, you will be redirected to the **Dashboard**.

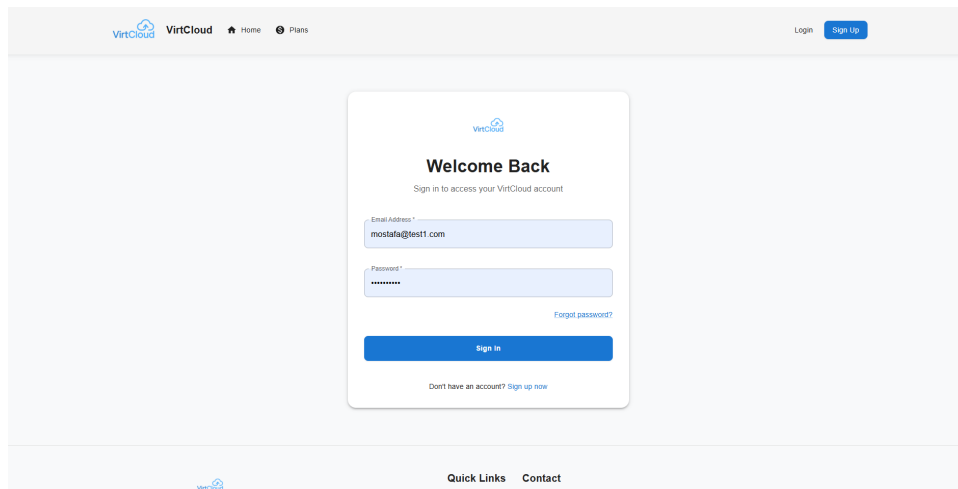


Figure 2: Login Page

### 3 Plans and Credits

VirtCloud offers four main plans:

- **Free Plan:** 15 credits/month. Up to 2 CPUs, 2GB RAM, 20GB disk, max VM runtime 4 hours.
- **Pro Plan (\$9/month):** 150 credits/month. Up to 4 CPUs, 8GB RAM, 50GB disk, unlimited VM time.
- **Unlimited Plan (\$29/month):** 600 credits/month. Up to 8 CPUs, 16GB RAM, 200GB disk, persistent VMs.
- **Pay-as-you-Go:** Rechargeable plan (\$5 = 10 credits). No limits on usage. Flexible billing per hour based on resource consumption.

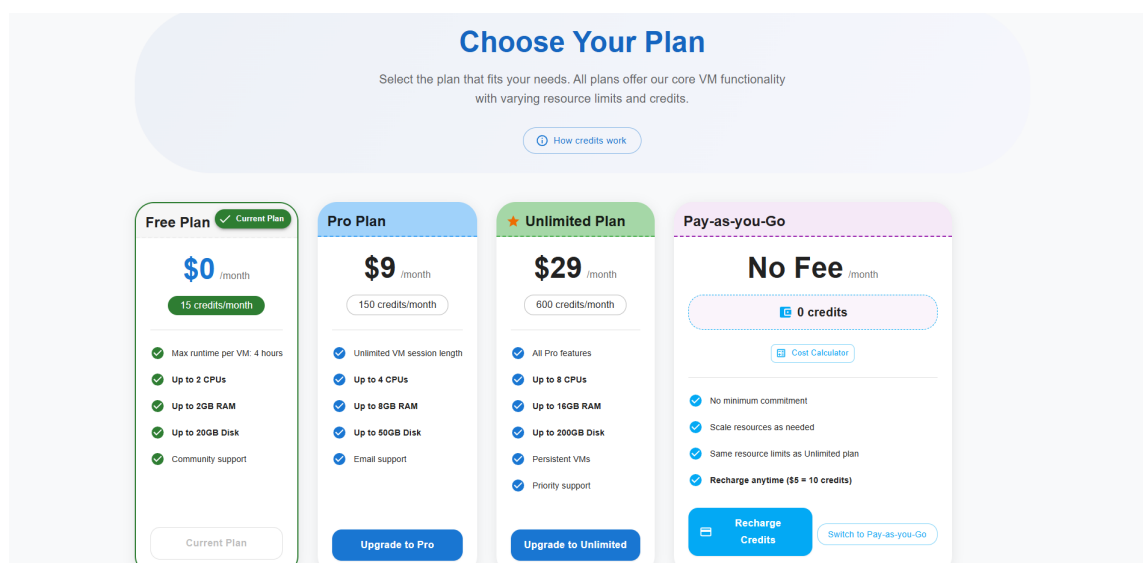


Figure 3: Plan Selection Page

## 4 Dashboard Overview

The dashboard gives a complete view of your current VMs, available credits, usage, and quick access buttons.

- View total and active VMs.
- Check remaining credits and usage cost.
- Access **Create VM**, **Manage VMs**, and **Refresh Data**.

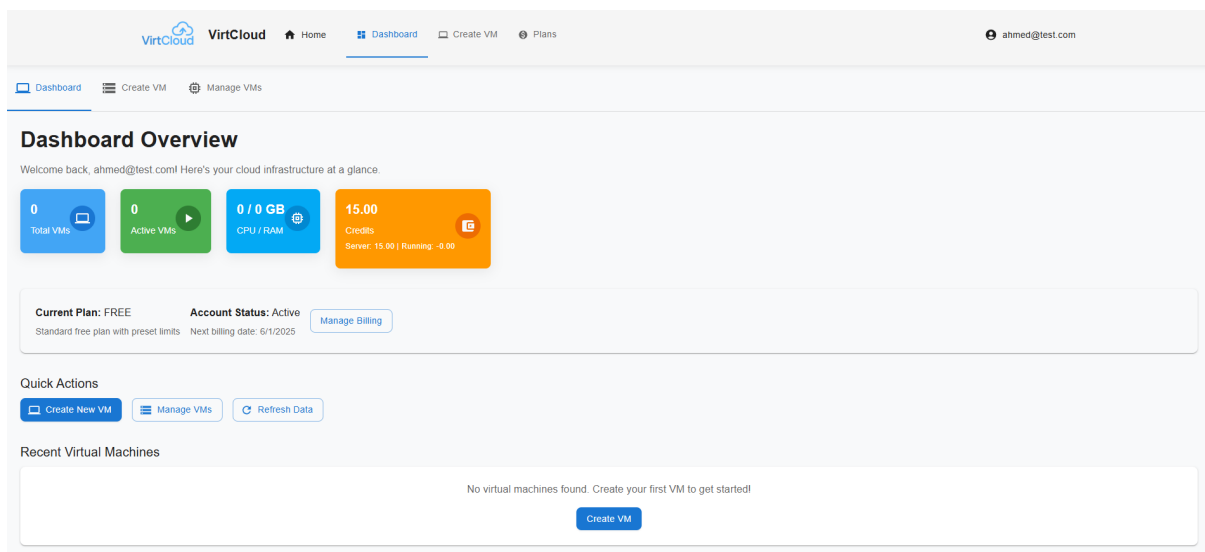


Figure 4: User Dashboard

## 5 Creating a Virtual Machine

### 5.1 Step 1: Create Disk

- Enter the **Disk Name** (no extension needed).
- Choose a disk format (e.g., `qcow2`, `raw`).
- Select disk size within your plan's limits.

The screenshot shows the 'Create Virtual Machine' interface with the 'Disk Creation' step selected. The 'Virtual Disk Configuration' section includes a 'Disk Name' field, a 'Disk Format' dropdown set to 'QCOW2', and a 'Disk Size' slider set to 10 GB. A cost estimate of 0.5 credits is shown. The account status at the bottom indicates a 'free' plan with 15 credits.

Dashboard Create VM Manage VMs

### Create Virtual Machine

1 Disk Creation 2 VM Resources 3 Review & Launch

**Virtual Disk Configuration**

First, let's create a virtual disk that will store your operating system and data.

Disk Name \*

Name for your virtual disk (no extension needed)

Disk Format  
QCOW2 (Best for snapshots, compression, dynamic allocation)

Select a disk format based on your needs. Hover over options for details.

Disk Size  
Disk Size  
10 GB

Drag to adjust size:  
1GB 10GB 20GB

You can allocate between 1GB and 20GB for your VM disk. Cost: 0.5 credits

Cost estimate: 0.5 credits (one-time charge)

Account Status  
Plan: free Credits: 15

Back Create Disk & Continue

Figure 5: Disk Creation Step

## 5.2 Step 2: Configure Resources

- Allocate **CPU** cores, **RAM** size, and select **Display** type.
- Select the **Operating System ISO** to install.

The screenshot shows the 'Create Virtual Machine' interface with the 'VM Resources' step selected. The 'Virtual Machine Resources' section includes a 'CPU Cores' dropdown set to 1, a 'RAM Memory' slider set to 1 GB, and a 'Display Type' dropdown set to 'SDL (Desktop Window)'. A cost estimate of 0.8 credits per hour is shown. The account status at the bottom indicates a 'free' plan with 15 credits.

Dashboard Create VM Manage VMs

### Create Virtual Machine

1 Disk Creation 2 VM Resources 3 Review & Launch

**Virtual Machine Resources**

Now configure the hardware resources for your virtual machine.

Disk created: test123.qcow2

CPU Cores  
1 CPU cores  
Plan limit: 2 cores  
Cost: 0.20 credits/hour

RAM Memory  
1GB 2GB  
Selected: 1 GB (1024 MB)  
Plan limit: 2 GB  
Cost: 0.10 credits/hour

Operating System  
Select OS  
The OS will be installed on your virtual disk

Display Type  
Display Type  
SDL (Desktop Window)

Cost estimate: 0.8 credits per hour

Account Status  
Plan: free Credits: 15

Back Review Configuration

Figure 6: VM Resource Configuration

### 5.3 Step 3: Review and Launch

Review all settings before launching the VM. Summary includes disk cost and hourly VM usage cost.

**Create Virtual Machine** [Guide](#)

✓ Disk Creation ✓ VM Resources 3 Review & Launch

**Review Configuration**  
Please review your VM configuration before launching.

**Disk Configuration**

- Name:** test123.qcow2
- Format:** qcow2
- Size:** 10G
- Cost:** 0.5 credits (one-time)

**VM Configuration**

- OS:** C:\Mostafa\cloud-Msa-course\IsoFiles\ubuntu-24.04.2-desktop-amd64.iso
- CPU:** 1 cores
- RAM:** 1 GB (1024 MB)
- Display:** sdl
- Cost:** 0.8 credits/hour

**Total Cost Summary**

- Initial disk cost: 0.5 credits
- Running VM cost: 0.8 credits per hour

Available credits: **15**

**Account Status**

Plan: free Credits: 15

[← Back](#) [Launch VM](#)

Figure 7: VM Configuration Review

## 6 VM Management

From the **Manage VMs** page, users can monitor, update, and control their virtual machines.

- **Start/Stop** VMs.
- View runtime, cost, and resources.
- Perform actions like **Disk Info**, **Resize**, **Convert**, and **Rename**.

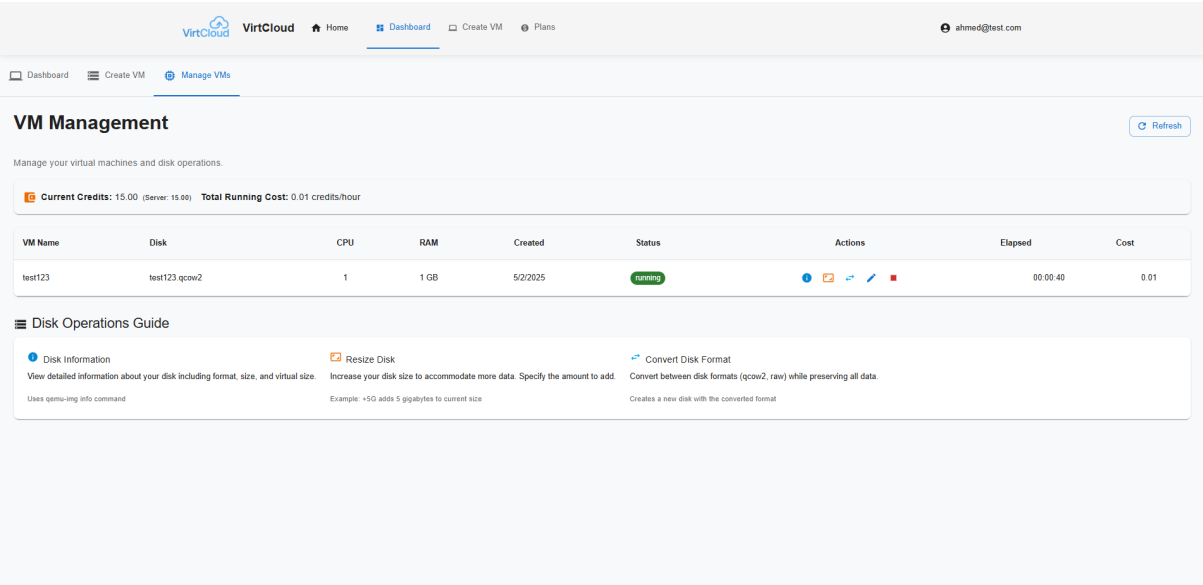


Figure 8: VM Management Interface

## 7 Disk Operations

### 7.1 View Disk Info

Check format, actual size, virtual size, and other metadata.

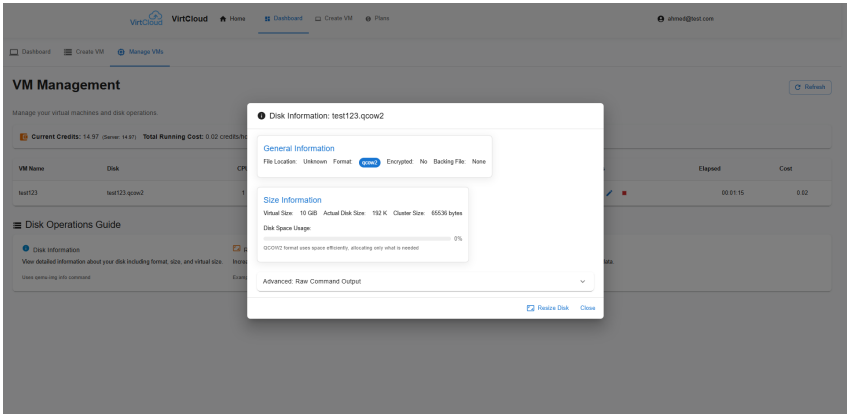


Figure 9: Disk Information Output

### 7.2 Resize Disk

Extend an existing disk to a larger size. You must specify how much to increase.



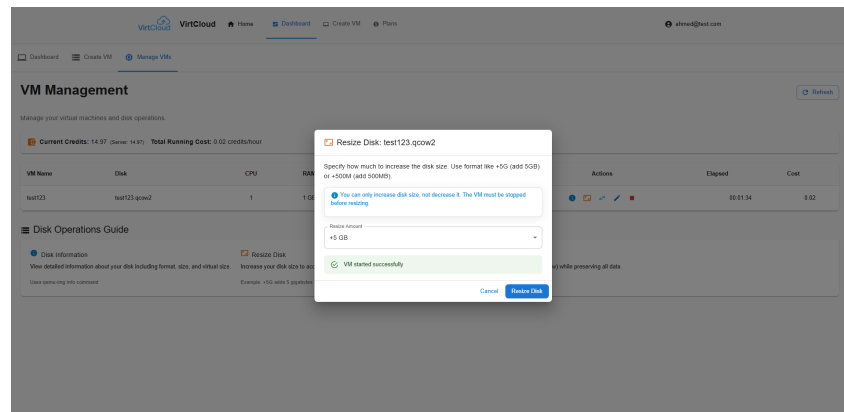


Figure 10: Resize Disk Panel

## 7.3 Convert Disk Format

Convert from one format (e.g., qcow2) to another (e.g., raw).

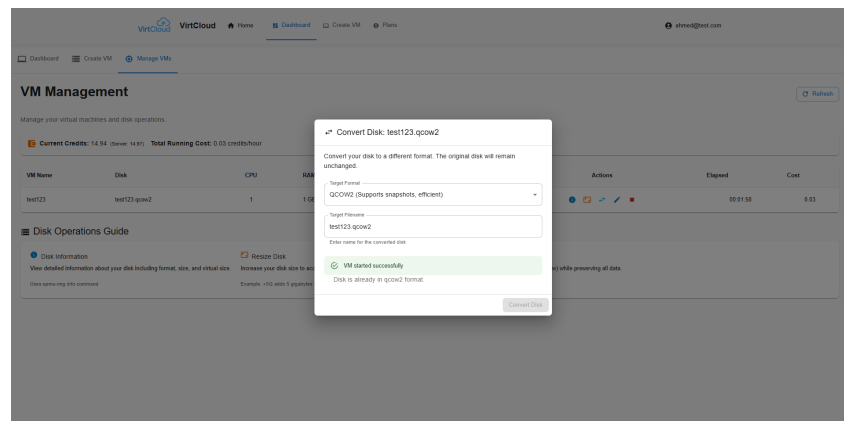


Figure 11: Convert Disk Format Page

## 8 VM Runtime and Cost Tracking

View credit usage and total runtime cost per VM.

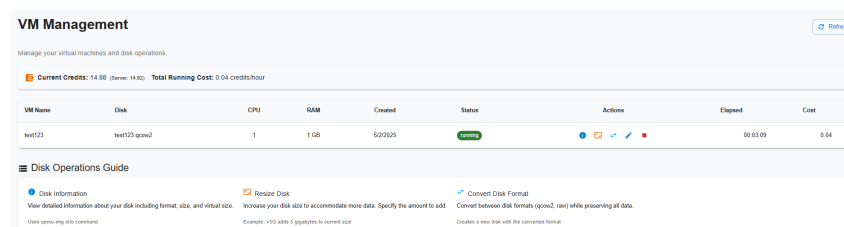


Figure 12: Credit Monitoring and Runtime Cost

## 9 Running the VM

VMs are launched in a new window. Example below shows Lubuntu booted successfully.

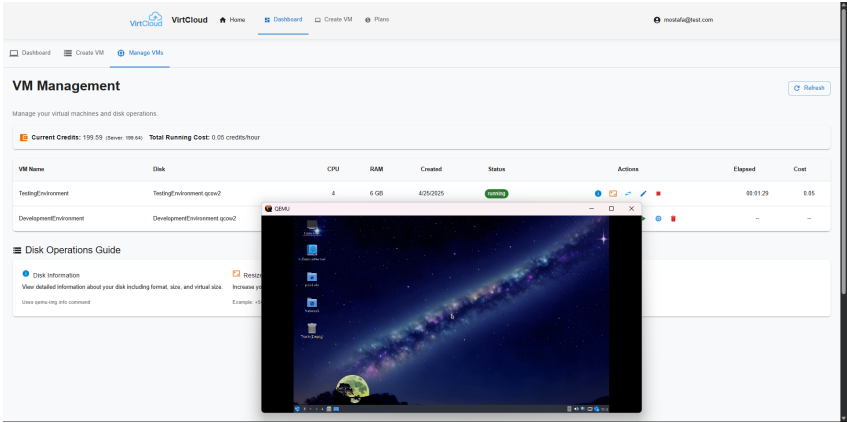


Figure 13: Running Lubuntu Inside VirtCloud